UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

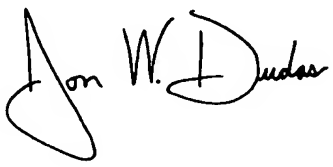
PATENT NO. : 7,058,548 B2
APPLICATION NO. : 10/693188
DATED : June 6, 2006
INVENTOR(S) : Peter J. Pupalaikis and David C. Graef

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

The title page should be deleted and substitue therefore the attached title page as shown on the attached page.

Signed and Sealed this

Fifth Day of December, 2006



JON W. DUDAS
Director of the United States Patent and Trademark Office

(12) **United States Patent**
Pupalaikis et al.

(10) **Patent No.: US 7,058,548 B2**
(45) **Date of Patent: Jun. 6, 2006**

(54) **HIGH BANDWIDTH REAL-TIME OSCILLOSCOPE**

(75) Inventors: **Peter J. Pupalaikis**, Ramsey, NJ (US); **David C. Graef**, Campbell Hall, NY (US)

(73) Assignee: **LeCroy Corporation**, Chestnut Ridge, NY (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: 10/693,188

(22) Filed: **Oct. 24, 2003**

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Related U.S. Application Data

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(51) **Int. Cl.**
G01R 23/00 (2006.01)

(52) **U.S. Cl.** 702/189; 702/75; 702/76; 341/155; 341/126

(58) **Field of Classification Search** 702/189, 702/66, 67, 69–71, 73–76, 106, 112, 124, 702/126, 110, 190, 191, 195, 197, 198; 324/76.19, 324/76.22, 76.23, 76.24, 76.28, 76.29, 76.31, 324/76.38, 76.41–76.47; 327/91, 94, 100, 327/107, 129; 341/122, 123, 126, 155; 375/224, 375/225, 316; 708/300, 309, 311; 331/42, 331/43, 30–32, 64, 135; 382/260
See application file for complete search history.

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(Continued)

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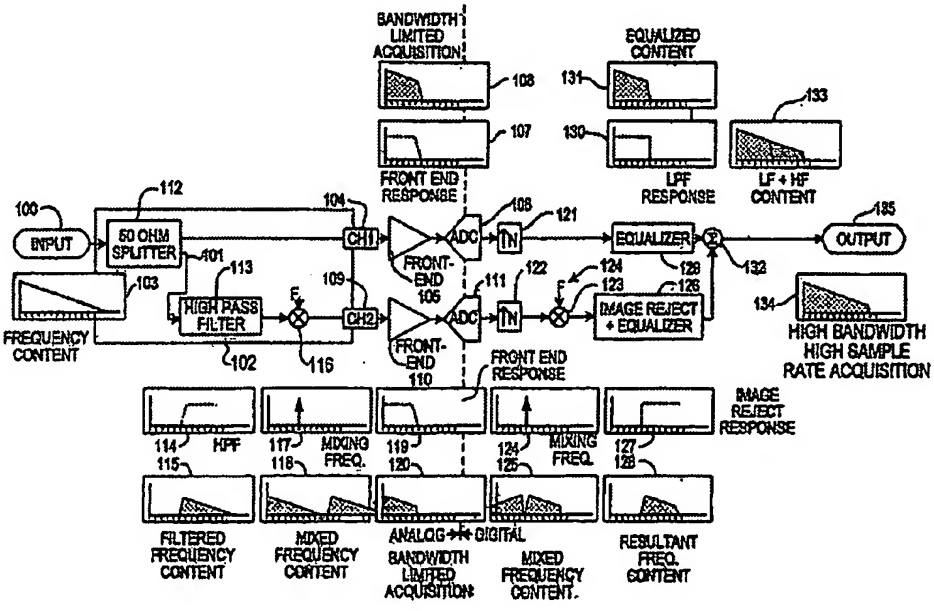
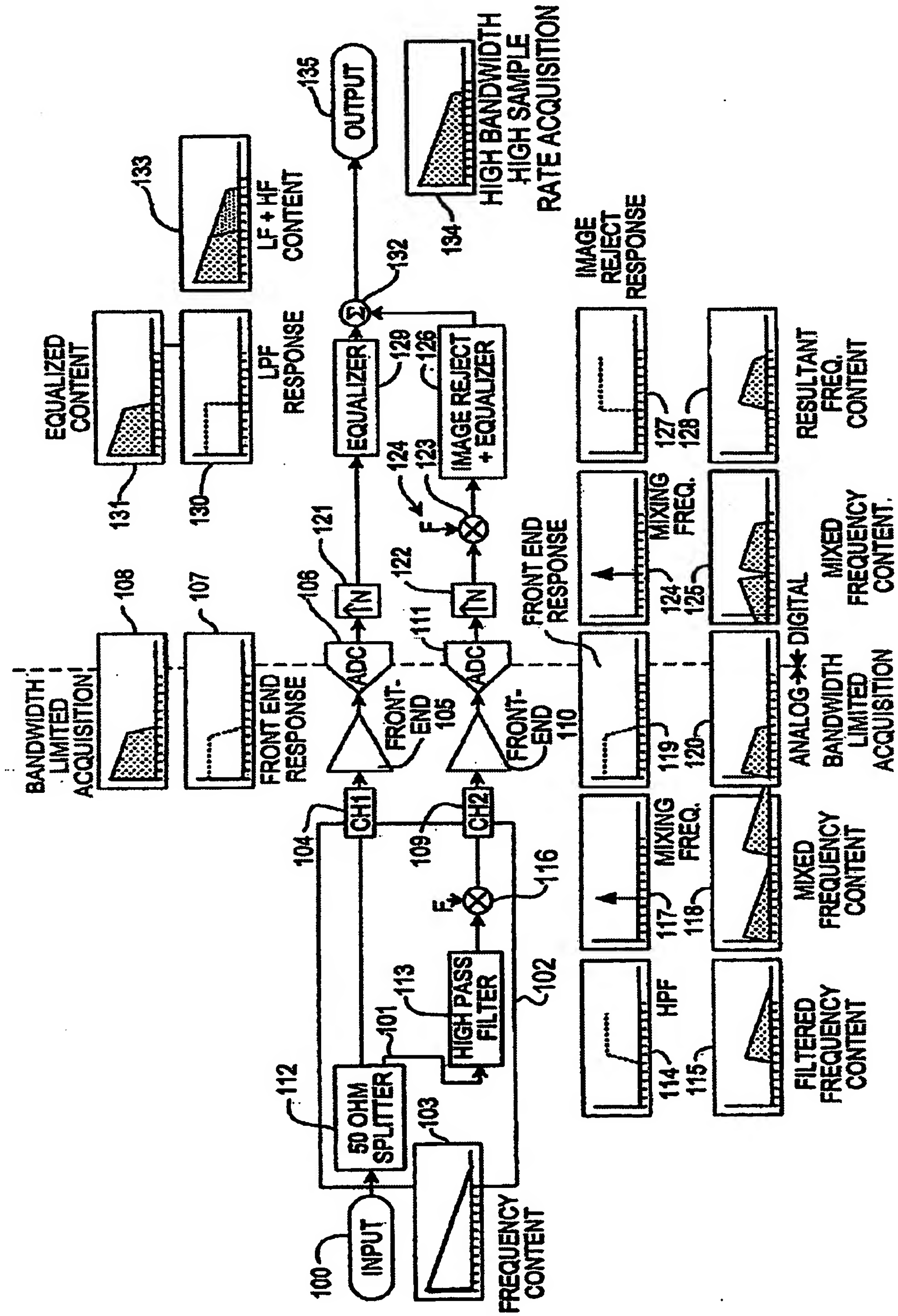
(57) **ABSTRACT**

A method and apparatus for digitizing a data signal. An input analog data signal, is received and split into a plurality of split signals. At least one of the split signals is mixed with a predetermined periodic function with a predetermined frequency. The split signals are then digitized and combined mathematically to form a single output data stream that is a substantially correct representation of the original input signal.

28 Claims, 23 Drawing Sheets




100
INPUT
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FREQUENCY CONTENT
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